REMARKS-General

1. The newly drafted independent claims 27, 34 and 46 incorporates all structural limitations of the original claims 1, 20, and 25 and includes further limitations previously brought forth in the disclosure. No new matter has been included. All new claims 27-49 are submitted to be of sufficient clarity and detail to enable a person of average skill in the art to make and use the instant invention, so as to be pursuant to 35 USC 112.

Response to Rejection of Claims 1-26 under 35USC112

2. The applicant submits that the newly drafted claims 27-49 particularly point out and distinctly claim the subject matter of the instant invention, as pursuant to 35USC112.

Response to Rejection of Claims 1-26 under 35USC103

3. The Examiner rejected claims 1-26 over Hagiwara et al (US 6,878,766) in view of no other cited art. Pursuant to 35 U.S.C. 103:

"(a) A patent may not be obtained thought the invention is **not identically** disclosed or described as set forth in **section 102 of this title**, if the **differences** between the subject matter sought to be patented and the prior art are such that the **subject matter as a whole would have been obvious** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

4. In view of 35 U.S.C. 103(a), it is apparent that to be qualified as a prior art under 35USC103(a), the prior art must be cited under 35USC102(a)~(g) but the disclosure of the prior art and the invention are not identical and there are one or more differences between the subject matter sought to be patented and the prior art. In addition, such differences between the subject matter sought to be patented **as a whole** and the prior art are obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

5. In other words, the differences between the subject matter sought to be patent as a whole of the instant invention and Hagiwara et al which is qualified as prior art of

the instant invention under 35USC102(b) are obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

6. The applicant respectfully submits that in order to determine whether the differences between the subject matters sought to be patent as a whole of the instant invention and the primary prior art, Hagiwara et al, are obvious in view of no other cited art, we have to identify all the differences between the claims of the instant inventions and Hagiwara et al. The applicant respectfully identifies the differences between the claims of the instant invention and Hagiwara et al as follows:

(a) In claims 27-49, "a product and manufacturing process of isoprene" is claimed for polyisoprene emulsion articles, wherein Hagiwara et al merely discloses the product of 1,3-butadiene which is not equivalent to isoprene. Hagiwara et al merely teaches, in column 2, lines 59-63, the conjugated diene monomer can be 1,3-butadiene, isoprene, 2,3-dimethyl-1,3-butadiene, 2-ethyl-1,3-butadiene, 1,3-pentadiene and chloroprene. Of these, 1,3-butadiene is preferable. All examples disclosed by Hagiwara et al are based on 1,3-butadiene without any mention of any manufacturing process of isoprene. A mere recitation of isoprene in Hagiwara et al does not anticipate or suggest any chemical and physical properties of isoprene as claimed in the instant invention. The applicant respectfully submits the chemical and physical properties of isoprene of the instant invention are different from that of 1,3-butadiene.

The differences between the **chemical** structure of isoprene of the instant invention and that of 1,3-butadiene are that the reaction of methyl in isoprene is more complex than that of 1,3-butadiene and the coefficient of chain growing rate of isoprene is lower than that of 1,3-butadiene. In addition, the isomer of isoprene is more than that of 1,3-butadiene. In other words, the chemical reaction of isoprene of the instant invention is different from that of 1,3-butadiene.

The **physical** structure of isoprene of the instant invention is different from that of 1,3-butadiene. Isoprene has a boiling point of -4.4°C and is in gas state at room temperature such that isoprene is usually liquidized for use, wherein the polymerization of isoprene is usually performed under a certain pressure. However, Hagiwara et al merely teach the butadiene-acrylonitrile latex is formed at 37°C without any mention of any latex formed under pressurized condition. In addition the boiling point of 1,3-

butadiene is 34.1°C and the polymerization of 1,3-butadiene can be performed under room temperature. In other words, even though isoprene and 1,3-butadiene are conjugated diene, the chemical and physical properties of isoprene are different from that of 1,3-butadiene.

(b) In claim 27, the step of "preparing an **aqueous** polyisoprene emulsion" is claimed, wherein Hagiwara et al fails to teach or suggest how to prepare the aqueous polyisoprene emulsion. In addition, Hagiwara et al is silent regarding the polyisoprene emulsion is prepared by a **co-polymerization** through mixing monomer selected from a group consisting of styrene, acrylates, and organic carboxylic acid with isoprene monomer, wherein said acrylate is one or more compounds selected from a group consisting of methyl acrylate, ethyl acrylate, butyl acrylate, iso-octyl acrylate, methyl methacrylate, and butyl methacrylate.

(c) In claim 37, the step of "preparing an **aqueous** polyisoprene emulsion" is claimed, wherein Hagiwara et al fails to teach or suggest how to prepare the aqueous polyisoprene emulsion by free radical emulsion polymerization from isoprene monomers under a normal pressure.

(d) Hagiwara et al does not teach the organic carboxylic acid is one or more compounds selected from a group consisting of acrylic acid, methacrylic acid, maleic acide, fumaric acid, and methylenebutene dicarboxylic acide as claimed in claim 28 in addition to what is claimed in claim 27.

(e) The claiming elements of a process claim are the acts in the steps included, Hagiwara et al fails to teach the elements of (a.1) charging.... (a.2) reacting ... (a.3) adding ... and (a.4) reacting ...as claimed in the claims 29 and 38 in addition to what is claimed in claims 27 and 37 as a whole respectively.

(f) Hagiwara et al fails to teach the emulsifier is a combination of an anionic emulsifier and non-ionic emulsifier, is selected from a group consisting of sodium dodecyl sulfate, sodium dodecanesulphonate, and OS emulsifier, wherein said non-ionic emulsifier is nonylphenol polyethylene glycol oxide as claimed in claims 30 and 39 in addition to what is claimed in claims 27 and 37 as a whole respectively.

(g) Hagiwara et al fails to teach an amount of the emulsifier is 5 to 30% by weight as claimed in claims 31 and 40 in addition to what is claimed in claims 27 and 37 as a whole respectively.

(h) Hagiwara et al fails to teach the initiator used for polyisoprene emulsion polymerization is a redox system, wherein an oxidant is selected from a group consisting of water-soluble presulfate and an oil-soluble peroxide, wherein a reductant is selected from a group consisting of sodium bisulfite, iron(II) sulfate, wherein an amount of the initiator is 0.3 to 3% as claimed in claims 32 and 41 in addition to what is claimed in claims 27 and 37 as a whole respectively.

(i) Hagiwara et al fails to teach the step of adding a co-reductant, a complexing agent and a precipitating agent to maintain a concentration of a ferrous iron (II) ion for ensuring a steady reaction, wherein the co-reductant includes formaldehyde sulfoxylate, wherein the complexing agent is ethylenediamine trtraacetic acide, wherein the precipitating agent is pyrophosphates as claimed in claim 33 and 42 in addition to what is claimed in claims 27 and 37 as a whole respectively.

(j) Hagiwara et al fails to suggest the water-dispersible vulcanization auxiliaries are selected from a group consisting of vulcanizators, vulcanization accelerators, and age inhibitors, wherein the vulcanizator is sulfur, wherein the vulcanization accelerator includes sulfonamides and thiurams with an amount of 0.5 to 10% by weight as claimed in claim 34 and 43 in addition to what is claimed in claims 27 and 37 as a whole respectively.

(k) Hagiwara et al does not teach the coagulant is a mixture of cationic salts and auxiliaries, wherein the cationic salts is selected from a group consisting of hydrochlorides and nitrates of calcium ion, zinc ion, and aluminum ion, wherein an amount of the coagulant is 10 to 30% by weight in claims 35 and 44 in addition to what is claimed in claims 27 and 37 as a whole respectively.

(l) Hagiwara et al does not teach the step of drying the polyisoprene articles at 60 to 170°C in claims 36 and 45 in addition to what is claimed in claims 27 and 37 as a whole respectively.

(m) In claim 46, Hagiwara et al does not teach the polyisoprene emulsion having an average molecular weight of 10^4 to 10^5, a pH value of 6.0 to 7.0, a viscosity of 5 to 20cp at 25°C, a solid content of 30 to 50 % and a colloidal particle size of 100 to 200nm, wherein the polyisoprene emulsion is made from 60 to 100 parts by weight of isoprene monomer and 5 to 50 parts by weight of one or more monomers selected from a group consisting of styrene, acrylates and organic carboxylic acids.

(n) Hagiwara et al does not teach the polyisoprene emulsion containing 10 to 50% of styrene by weight as claimed in claim 47 in addition to what is claimed in claim 46.

(o) Hagiwara et al does not teach the polyisoprene emulsion containing 10 to 50% of acrylate by weight as claimed in claim 48 in addition to what is claimed in claim 46.

(p) Hagiwara et al does not teach the polyisoprene emulsion containing 1 to 10% of organic carboxylic acids by weight as claimed in claim 49 in addition to what is claimed in claim 46.

7. Therefore, the difference between Hagiwara et al and the instant invention as claimed in claims 27 to 49 is not limited to the disclosure of "conjugated diene", but includes the above distinctive features (a) to (p). In fact, the chemical and physical properties of isoprene of the instant invention are different from that of 1,3-butadiene disclosed by Hagiwara et al.

8. The applicant respectfully submits that the invention must be considered as a whole and there must be something in the reference that suggests the combination or the modification. *See* *Lindemann Maschinenfabrik GMBH* *v.* *American Hoist & Derrick*, 221 U.S.P.Q. 481, 488 (Fed. Cir. 1984) ("The claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination"), *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984), ("The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.") *In re Laskowski*, 10 U.S.P.Q.2d 1397, 1398 (Fed. Cir. 1989), ("Although the Commissioner suggests that [the structure in the primary prior art reference] could readily be modified to form the [claimed] structure,

"[t]he mere fact that the prior art could be modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.")

9. In the present case, there is no such suggestion. Hagiwara et al fails to suggest the above distinctive features (a) to (p) as claimed in the instant invention. Accordingly, applicant believes that for all of the foregoing reasons, all of the claims are in condition for allowance and such action is respectfully requested.

The Cited but Non-Applied References

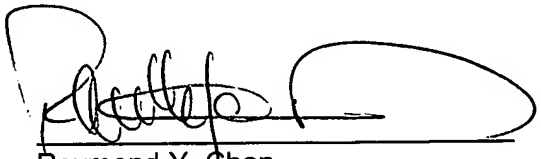
10. The cited but not relied upon references have been studied and are greatly appreciated, but are deemed to be less relevant than the relied upon references.

11. A certified copy of the China application, having the application number 03151008.6 and a filing date of September 17, 2003, is enclosed herewith for the instant invention to claim foreign priority benefits under 35 USC 119.

12. In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration and withdrawal of the objection are requested. Allowance of claims 27-49 at an early date is solicited.

13. Should the Examiner believe that anything further is needed in order to place the application in condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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